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ABSTRACT

This pamphlet is designed to demonstrate what is available in the ERIC system on dial access in education, a retrieval technique which permits a large variety of learning materials to be electronically delivered to almost any destination. Ten annotated references published between 1962 and 1968 comprise the major part of the pamphlet. (Author/SP)

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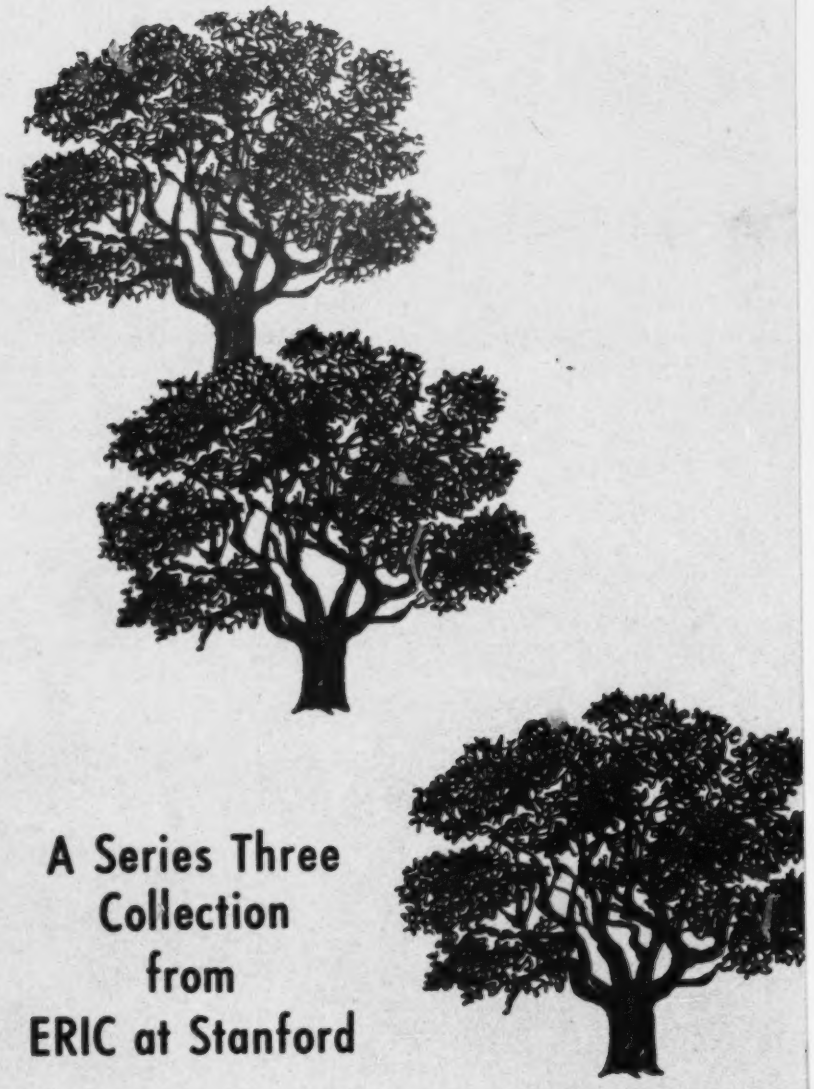

A Series Three Collection from ERIC at Stanford

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Dial Access in Education

A Series Three Collection
From ERIC at Stanford

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Stanford, Calif.

Series Three Collections demonstrate the variety of media and technology documents available from ERIC and make ordering copies a simple process. Most of the listed documents are available on microfiche, as is described on the last page of this booklet.

FOREWORD

This Series Three collection is presented to give you an idea of the ERIC documents available on this particular subject, and to make obtaining copies of most of them a simple process. Because different clearinghouses necessarily overlap in scope, some media and technology documents have been processed into the ERIC system by clearinghouses other than ERIC at Stanford. Abstracts of such documents are included among those offered here. This booklet, that is, presents documents selected from the whole ERIC collection, not just those documents processed at the Stanford clearinghouse.

A few non-ERIC sources may be cited, but only recent and exceptionally useful ones which are well-known to your editors. In contrast, the clearinghouse's Series One publications are annotated bibliographies prepared by experts in a field, and containing references to both ERIC and non-ERIC documents. While those Series One publications were commissioned in order to provide "Basic Reference Shelves" or introductions to subject matter areas, the booklet you hold in your hand was designed for the quite different purpose mentioned above: to demonstrate what is available in the system and, when the subject allows, to present all the relevant ERIC documents.

Because rates charged by the ERIC Document Reproduction Service have to be adjusted occasionally, the length of each document, rather than the price, is listed in this booklet. Each issue of the ERIC at Stanford Newsletter (available free upon request) carries current prices, along with details on how to order. Even with price adjustments, microfiche will continue to be a bargain; up to two-hundred pages of text can be obtained for about a dollar.

Dial Access in Education

The process of centrally storing and electronically transmitting various types of information through remote control has been designated by various labels, including dial-access, remote access, or information storage and retrieval. Whatever the label used, they all refer to one of the newest individualized instructional media, one which more than any other relies heavily on the integration of hardware and software.

Simply stated, dial access is a retrieval technique which permits a large variety of learning materials to be electronically delivered to almost any destination. With dial access, individual students have access to such materials as motion pictures, filmstrips, slides, taped television presentations, recorded information and classroom lessons that may be audio or video recorded. A student orders from a central storage-retrieval center the materials he wants to view or hear. The student dials a predetermined digital code or triggers some type of electronic selection device, and the materials are presented instantly in his study carrel via a video or audio channel. This system adds a new dimension to individualized instruction and provides a multi-sensory dimension to the learning process.

To date the most fertile years in research and dissemination on dial access have been 1965-1968. In 1967 federal financial support reached its peak with the funding of 83 research projects.

A survey by Gabriel Ofiesh, "State of the Art of Dial Access Information Retrieval" (ERIC documents ED 017 307 and ED 025 682), along with a 1967 summary by Richard Naber, "Dial Access Information Retrieval Systems, Circa 1967" (ED 019 917), rank among the most comprehensive statements in the paucity of quality literature on dial access. (Summaries of each are included in this collection.)

Dial access systems were first considered by Dr. F. Rand Morton when he was on the faculty of the University of California. With the support of representatives of the Bell Telephone Company, he developed preliminary plans for a prototype system. This support from the Bell Laboratories was indicative of a trend which found many commercial firms such as Reeves Electronics Corporation of Los Angeles, Litton Industries and Ampex actively involved in the research, development and installation of dial access. Examples of such efforts can be seen today throughout the country, at the Nova School complex in Florida, Oral Roberts University, Ohio State University, the West Hartford Connecticut schools, Oklahoma Christian College, the Beverly Hills school system, and the Lake Forest, Ill., High School.

Morton installed the first "Dialog" Language Laboratory at the University of Michigan in 1961. This effort was followed in 1965 by a host of other installations, including one at Oral Roberts University with 130 carrels, another at Oklahoma Christian College with 870 carrels, and a third at Ohio State University. These three large installations in 1965, writes Ofiesh, mark the breakthrough of dial access. When first introduced, dial access was used primarily in foreign language laboratories, but the last years have seen it used increasingly in other subject areas.

Since 1968, dial access appears to have reached a plateau. Naber suggests that to realize the potential of dial access, greater amounts of creative programed materials must be produced and made readily available to schools. This electronic marvel, Naber writes, can do nothing creative until imaginative software is developed in sufficient quantity and used creatively.

At present, there does not appear to be any accumulation of quality literature on "best practices" or on mechanical and elec-

tronic difficulties encountered with dial access. The question of how dial access relates to other technologies such as ITV and CAI, as well as its effectiveness in meeting educational objectives, needs to be investigated. Also, there is no comprehensive body of evidence which might support a "go" or "no go" decision in installing a dial access system. Because of the increasing interest and potential of dial access for individualized instruction, the need for solid research and evaluation studies is becoming important.

Concomitantly, educators and other users need to face the issue of copyright infringement and arrive at a workable arrangement with the publishing and software industries on the storage-retrieval and utilization of materials.

Oak Park and River Forest High School Random Access Information Center. A PACE Program. Report II

Oak Park and River Forest High School, Illinois, Sept. 1968, Available as Document ED 028 639 from EDRS, one fiche or 10 pages hardcopy.

The specifications, planning, and initial development phases of the Random Access Center at the Oak Park and River Forest High School in Oak Park, Illinois, are described with particular attention to the ways that the five functional specifications and the five-part program rationale were implemented in the system design. Specifications, set out by a faculty committee prior to the contracting of the project, require instanteous random access to both audio and visual materials, full user control over the selection and use of materials, remote access on the widest possible scale, and a single central storage and control facility. The goals of the program include enrichment of the program of studies, greater individualization of instruction in the curriculum, better integration of the instructional program around the focal point of the library, improvement of library services through the convenience and flexibility of an automated retrieval system and, finally, the elimination of the mechanical problems which inhibit student and teacher in their use of audio and visual materials.

Dial Access Information Retrieval Systems: Guidelines Handbook for Educators

Gabriel D. Ofiesh, Catholic University of America, Washington, D. C., July 1968, Available as Document ED 025 682 from EDRS, three fiche or 179 pages hardcopy.

Guidelines for the planning, purchase, and utilization of dial access information systems for instruction were researched and incorporated into this handbook. Among the areas considered are (1) the costs involved in such a system for educational purposes, (2) the number and location of dial access facilities now in operation or those planning operation, and (3) the attitudes of students and faculty towards acceptance and use of such a system.

"Dial Access Information Retrieval Systems, Circa–1967," in Illinois Journal of Education, March 1968, pages 51-54

Richard H. Naber, Illinois State Office of the Superintendent of Public Instruction, Springfield, March 1968, Available as Document ED 019 917 from EDRS, one fiche or six pages hardcopy.

The author writes that to realize the full potential of dial access information retrieval systems, greater amounts of creative programed material must be produced and made readily available to teachers so that classroom time may be used more constructively, and teachers must change from teacher-oriented to pupil-directed learning activities so that dial access can best aid the independent learner. Innovative teachers in Illinois schools are cited as having made flexible, advantageous use of the system. Innovations include decentralized positioning of student dials to facilitate independent drill, exercises and activity sheets coordinated to audio programs that meet individual differences, and team teaching systems which coordinate both individual and group use of the system. Closed-circuit systems to provide students with access to tapes are under development, and the University of Illinois, Circle Campus, is studying the possibility of an open system which will provide national direct contact with tape banks via telephone.

"Is Dial Access a Fad?" in Audiovisual Instruction, December 1967

Available from Department of Audiovisual Instruction, National Education Association, 1201 16th St. N.W., Washington, D. C.

The author takes a critical look at dial access and briefly cites the discrepancies between its potential and actual application. Four principal limitations are cited: (1) It is inflexible as to scheduling, unless programs are to start at the convenience of the first person who happens to dial in, (2) Its random access capability is strictly limited to the number of programs that can be played simultaneously, (3) It imposes a lock step, and (4) It is a very costly proposition.

State of the Art of Dial Access Information Retrieval. Interim Report on Library Research

Gabriel D. Ofiesh, Catholic University of America, Washington, D. C., November 1967, Available as Document ED 017 307 from EDRS, one fiche or 58 pages hardcopy.

This report covers a review of the literature on the dial access information systems (DAIRS), used for retrieving and transmitting audio and/or visual instructional materials to carrels or classrooms electronically. After formulating a working definition of the subject, a classification system and specific subject headings for use in the search were developed, and written documents on the system's technical and instructional aspects were surveyed. It was found that there is a paucity of literature on the subject, indicating the recent, rapid emergence of DAIRS. The literature search also showed that some educators see a major technological revolution in the educational field, and there is a trend for DAIRS to be used in departments outside the foreign language laboratory, for which it was originally installed. In the future, information derived from the continued survey of the literature and dial access systems in operation, together with an analysis of users' experiences obtained from on-site visits, will be compiled in a guidelines handbook for educators. A 45 item bibliography and glossary are included, and appendices list sources used in reviewing the literature, the DAIRS project information classification, the subject headings used, an equipment survey, and titles of periodicals that give information on DAIRS.

"Mediated Self-Instruction" Issue, Audiovisual Instruction, May 1967.

Available in most libraries, published by Department of Audiovisual Instruction, National Education Association, 1201 16th St. N.W., Washington, D. C.

This issue of AVI is devoted completely to auto-tutorial, multimedia, and dial access systems. An article by Donald Stewart on cost analysis of dial access systems and several case studies or "success stories" (e.g., West Hartford, Connecticut; Ohio State University; the Oral Roberts University; Bucknell;

Oklahoma Christian College; Nova High School; the Beverly Hills Schools, etc.) are included. It is one of the most comprehensive collections of easy-to-read articles on dial access.

Three High Schools Revisited–Andrews, McPherson, and Nova. Profiles of Significant Schools

Sherwood D. Kohn, 1967, Available from Educational Facilities Laboratories, Inc., 477 Madison Ave., New York, N. Y. 10022.

Three schools–Nova High School in Fort Lauderdale, Florida, McPherson Senior High School in McPherson, Kansas, and Andrews Senior High School in Andrews, Texas–are examined in this report. All of them are considered advanced educational plants. And all have been in full operation for less than five years, but most of their innovational aspects have already been thoroughly tested. Many have proven effective, some, on the other hand, have not, and it is the purpose of this report to inform future planners as to which features might be emulated and which avoided in the design of school buildings for the space age. All incorporate–(1) team teaching, (2) individual instruction, (3) audio-visual aids, (4) decentralized resource facilities, and (5) efficient environmental controls leading architects in the direction of flexible, multipurpose space, library focal points, full air-conditioned and carpeted buildings, greater use of acoustical materials, one-floor loft places, windowless areas, teachers' offices and planning rooms, and modern communications hardware.

Spectrum of Electronic Teaching Aids in Education–Functions, Facilities, Budgets

Finstad, Allan, Stanford University School Planning Lab., Stanford, California; Educational Facilities Labs., Inc., New York, N. Y., 1965, Available as Document ED 014 867 from EDRS, one fiche or 32 pages hard-copy.

This report presents a brief, nontechnical, pictorial overview of the educational potential and approximate cost of certain configurations of electronic audio, audio visual, and television teaching systems. Equipment is categorized according to the extent to which progressive modes of learning are served, the nature and complexity of the hardware and systems, and the estimated budget required to achieve a given systems configuration. Progressively more complex installations are briefly described for each of the three systems. School administrators and staff members can more easily visualize the overall spectrum of electronic teaching systems in gradation of function and cost through use of this booklet. Pictures, diagrams, and room layouts are presented for each grade of the system suggested. Included in the electronic devices presented are tape recorders, dictation laboratories, library listening facilities, language laboratories, projection devices, classroom communicators, multimedia laboratories, and television systems.

"Tomorrow's Language Lab Today," in Florida Reporter, Winter 1965-66

Juan Estarellas and Timothy F. Regan, Jr., Available as Document ED 010 731 from EDRS, one fiche or six pages hardcopy.

Language laboratories have changed from simple installations, equipped with record players or tape recorders, to complex installations with facilities for self–instruction, dial selection of audio programs, remote storage of tapes, and even reception of TV. Language laboratories of the future must have the capability of being operated efficiently on a partially or totally self-instructional basis, and must be flexible enough to permit the use of a variety of teaching techniques and materials. An audio-video lab of this

type was installed at Florida Atlantic University after self-instructional and audio-video materials had been developed by staff members and electronic studies of continuous progress education had been made by the engineering staff. It is equipped with 40 positions with facilities for dial selection of any of 100 audio programs from a remote library. Ten booths can be used independently of the console to record audio programs and responses on remotely located tape recorders. Ten positions are equipped for video reception. It is expected that this laboratory will provide teaching machine capabilities for the language program at Florida Atlantic University. Plans for future expansion of the laboratory include installation of dial facilities in dormitories and Library, and adaptation to a computer system.

Planning Schools for New Media

Amo De Bernardis and others, Portland State College, Oregon, 1962, Available as Document ED 003 721 from EDRS, two fiche or 78 pages hardcopy.

This manual was prepared as a reference guide to assist school board members, school superintendents, and architects in planning school buildings so that teachers could make full and effective use of modern media in instruction. Elements of the manual, as listed in the table of contents, are "The Planning Process," "Instructional Materials Centers," "Classrooms," "Language Laboratores," "Auditoriums and Multipurpose Rooms," "Intercommunications Systems," "Radio Facilities," "Television Facilities," and "Tomorrow" (future applications).

These documents (except for the few identified as available elsewhere) can be ordered individually in hardcopy or microfiche, or as a complete collection of 10 fiche. Simply check the per-fiche price and ordering directions in the last ERIC at Stanford Newsletter. If you wish all 10 fiche, ask the ERIC Document Reproduction Service in Maryland for Collection MT 852 002 (Dial Access in Education).

(As of January 1970, the price per page of hardcopy was 5c and the price per fiche was 25c, plus a 50c service charge on each order. Thus the 10 fiche of the Dial Access in Education collection could be ordered for $2.50 plus 50c from EDRS, 4936 Fairmont Avenue, Bethesda, Maryland 20014.)